In the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method for routing messages from a source node (S) to a destination node in a dynamic network, said source node including a routing table, each row in the routing table representing a possible destination node (D) for a data message transmitted from the source node (S), and each row in the routing table including one probability value p(k,D) for each neighbor node (k) of the source node (S), the method comprising:

updating the probability values with quality measurements taken each time a data message is sent from the source node (S) to athe destination node (D);

routing a tunable predefined percentage of the messages by choosing the neighbor node with the highest probability value in the row for a destination node (D) in the routing table; and

routing the other messages by distributing the messages among the neighbor nodes according to the probability values given in the same row in the routing table.

2. (currently amended) The method of claim 1 wherein the probability values of using a specific neighbor node (k) of the source node (S) for transmitting data from the source node (S) to the destination node (D) are updated according to the following expression:

$$\frac{p(k, D)(old) + \delta}{1 + \delta}$$

where δ represents the measured quality of ~~the link~~a path through the node k, and p(k,D)(old) represents the old probability value amount of using the node (k) for transmitting data from the source node (S) to the destination node (D), and the remaining probability values in the routing table are adjusted in such a way that all the probability values in each row of the routing table sum to one.

3. (currently amended) The method of claim 2 wherein the quality measures of the path taken are represented by hops and/or time delays.

4. (currently amended) The method of claim 1 further comprising at the detection of a lost connection with a neighbor node, for each row of the routing table for the node, removing the probability value associated with the lost neighbor node and adjusting the probability values of the rest of the neighbors nodes so as to sum to one, and creating a new row in the routing table for the lost neighbor node, by initially assigning equal probability values for each of the respective remaining neighbor nodes in the new routing table row, and then adjusting the probability values according to quality measurements performed by data messages emitted from the source node towards the lost neighbor node.

5. (currently amended) The method of claim 4 further comprising further adjusting probability values to re-establish the relative relations among the remaining ~~neighbours~~ neighbor nodes prior to the loss of the neighbor node.

6. (currently amended) The method of claim 4 further comprising waiting a predefined period of time from the detection of ~~the~~ a lost connection until adjusting existing routing table rows and creating a new routing table row.

7. (currently amended) The method of claim 6 wherein ~~the messages performing the route quality measurements, and updating the routing tables, are simply the data messages themselves, and~~ dummy messages are specially emitted after the predefined time interval, and at regular intervals thereafter, only for the purpose of finding a lost neighbor node.

8. (currently amended) The method of claim 1 further comprising at the detection of a gain of a new neighbor node (j), for both the new neighbor node (j) and the source node (S), computing one route quality rating (RQR(D,j[[,]]) and RQR(D,S)) for each possible destination node (D), based on the maximum probability value and minimum probability value for each destination node (D), and for all possible destination nodes (D), computing a new probability value for the new neighbor node based on the route quality rating for the neighbor node (j) and the source node (S) and the number of its associated neighbor nodes.

9. (previously presented) The method of claim 8 wherein the route quality rating is equal to a maximum probability value minus a minimum probability value.

10. (currently amended) The method of claim 9 wherein the new probability value for the new neighbor node (j) is:

$$\begin{cases} \frac{1}{n+1}+\left(1-\frac{1}{n+1}\right)(x-y)\,if>0 \\ 0\ otherwise \end{cases}$$

$$\begin{cases} \frac{1}{n+1}+\left(1-\frac{1}{n+1}\right)(x-y)\,if\,said\,expression>0 \\ 0\ otherwise \end{cases}$$

where x is the quality rating of the new neighbor node, y is the quality rating of the source node in question and n is the number of neighbor nodes before gaining the new neighbor node.

11. (currently amended) A method for routing messages from a source node (S) to a destination node (D) in a dynamic network using a routing table having a probability value p(k,D) for each neighbor node (k) of the source node (S), the method comprising:

a) routing a tunable predefined percentage of the messages to a neighbor node having a highest probability value in a routing table; and

b) routing a remaining percentage of messages among neighbor nodes according to a probability value associated with each neighbor node in the routing table.

12. (currently amended) The method of claim 11 further comprising updating the probability values with quality measurements taken each time a data message is sent from the source node (S) to the destination node (D).

13. (currently amended) The method of claim 12 wherein the probability values of using a specific neighbor node (k) of the source node (S) for transmitting data from the source node (S) to the destination node (D) are updated according to the following expression:

$$\frac{p(k, D)(old) + \delta}{1 + \delta}$$

where δ represents the measured quality of a ~~link~~ path through the node k, and p(k,D)(old) represents the old probability value amount of using said node (k) for transmitting data from the source node (S) to the destination node (D), and the remaining probability values in the routing table are adjusted in such a way that all the probability values in each row of the routing table sum to one.

14. (currently amended) The method of claim 13 wherein the quality measures of the path taken are represented by at least one of hops or time delays.

15. (previously presented) The method of claim 11 wherein each row in the routing table represents a possible destination node (D) for a data message from the source node (S).

16. (currently amended) The method of claim ~~5~~15 further comprising at the detection of a lost connection with a neighbor node, for each row of the routing table having an entry for the lost neighbor node, removing the probability value associated with the lost neighbor node from the routing table and adjusting the probability values of the rest of the neighbors nodes so as to sum to one, and creating a new row in the routing table for the lost neighbor node, by initially assigning equal probability values for each of the respective remaining neighbor nodes in the new routing table row, and then adjusting the probability values according to quality measurements performed by data messages emitted from the source node towards the lost neighbor node.

17. (currently amended) The method of claim 15 further comprising further adjusting probability values to re-establish the relative relations among the remaining neighbors nodes prior to the loss of the neighbor node.

18. (currently amended) The method of claim 15 further comprising waiting a predefined period of time from the detection of ~~the loss~~ a lost connection until adjusting existing routing table rows and creating a new routing table rows.

19. (currently amended) The method of claim 18 wherein data messages perform ~~the~~ route quality measurements and update the routing tables, and dummy messages are specially emitted after the predefined time interval, and at regular intervals thereafter, only for the purpose of finding a lost neighbor node.

20. (currently amended) The method of claim 11 further comprising at the detection of a gain of a new neighbor node (j), for both the new neighbor node (j) and the source node (S), computing one route quality rating (RQR(D,j[[,]]) and RQR(D,S)) for each possible destination node (D), based on the maximum probability value and minimum probability value for each destination node (D), and for all possible destination nodes (D), computing a new probability value for the new neighbor node based on the route quality rating for the neighbor node (j) and the source node (S) and the number of its associated neighbor nodes.

21. (currently amended) The method of claim ~~18~~20 wherein the route quality rating is equal to a maximum probability value minus a minimum probability value.

22. (currently amended) The method of claim ~~9~~21 wherein the new probability value for the new neighbor node (j) is:

$$\begin{cases} \frac{1}{n+1}+\left(1-\frac{1}{n+1}\right)(x-y)\ if>0 \\ 0\ otherwise \end{cases}$$

$$\begin{cases} \frac{1}{n+1}+\left(1-\frac{1}{n+1}\right)(x-y)\ if\ said\ expression>0 \\ 0\ otherwise \end{cases}$$

where x is the quality rating of the new neighbor node, y is the quality rating of the source node in question and n is the number of neighbor nodes before gaining the new neighbor node.